CLASSROOM COPY DO NOT WRITE ON!!!

CW#73: Applications of Special Right Triangles

Geometry

Complete all problems in notebook, copy all figures in notebook, and show all work!

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| 5) The perimeter of a square is 36 inches. Find the length of a diagonal. Draw a figure. | 6) The diagonal of a square is 26 inches. Find the length of a side. Draw a figure. |
| 7) Find the area of the figure. Round decimal answers to the nearest tenth. | 6) Find the area of the figure. Round decimal answers to the nearest tenth. |
| 3) The side length of an equilateral triangle is 5 centimeters. Find the length of an altitude of the triangle. Draw a figure. | 4) The perimeter of an equilateral triangle is 36 inches. Find the area of the equilateral. Round to the nearest tenth. Draw a figure. |
| 7) Find the area of the figure. Round decimal answers to the nearest tenth. | 8) A hexagonal window consists of six congruent panes of glass. Each pane is an equilateral triangle. Find the area of the entire window. |
| 9) Find the value of x. Give your answer as a radical in simplest form. | 10) There is a park in your town that is a square with a side length of 800 feet. You plan to walk from one corner of the square to the opposite corner.  a. To the nearest foot. How much shorter is the distance from one corner to the opposite corner along the diagonal than the distance along the two sides of the square?  b. You walk at a rate of 3 miles per hour. Find you rate in feet per second.  c .To the nearest second, how much time would you save by walking along the diagonal rather than walking along two sides of the square? |
| 11) A large stained glass window is constructed from six 30-60-90 triangles shown in figure. What is the height of the window? Keep all answers as simplified radicals. | 12) A box of chocolates shaped like a regular hexagon is placed snugly inside of a rectangular box as shown in the figure.  If the side length of the hexagon is 3 inches, what are dimensions of the rectangular box? |